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Brazil's New Agricultural Frontier Changes in U.S. Meat Import Limits

Foreign
Agricultural
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This week's cover:

Irrigation is just one of the methods being utilized by Brazilians to upgrade their agriculture. For a comprehensive look at Brazilian agriculture today and prospects for the future see articles beginning this page. (Photo courtesy FAO.)

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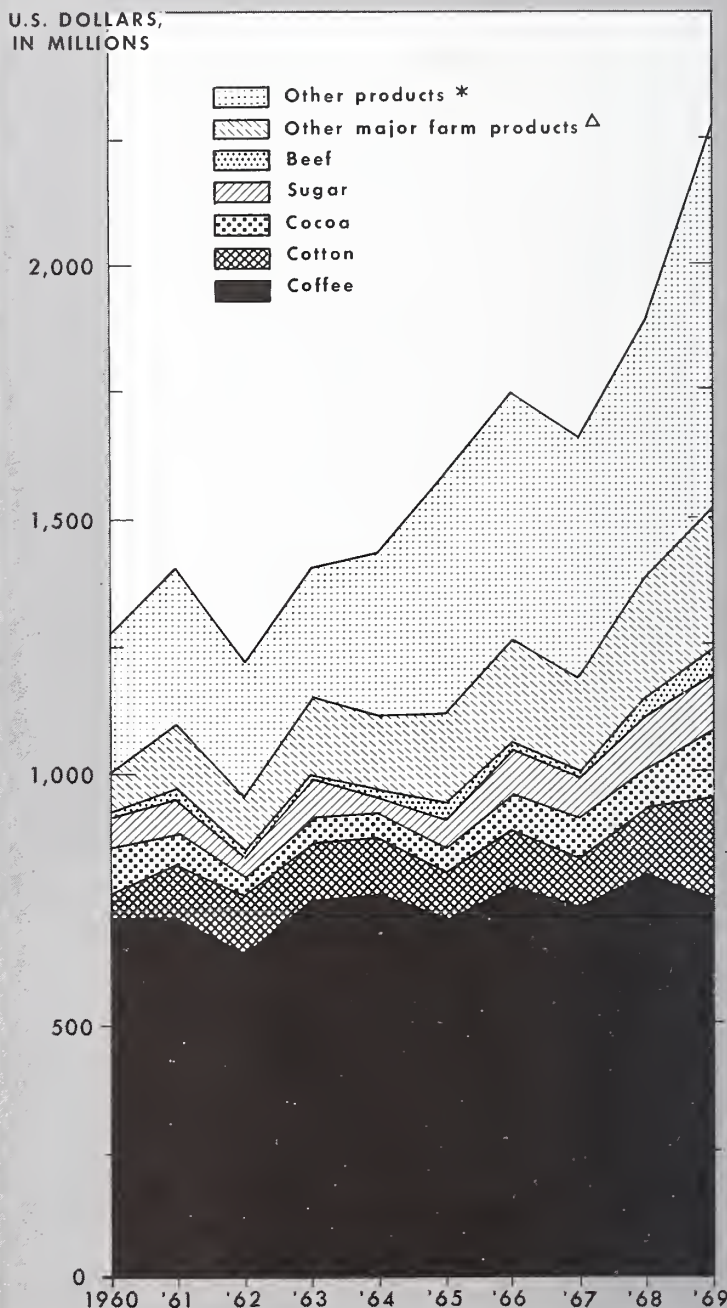
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By ROBERT W. JOHNSON
Assistant U.S. Agricultural Attaché
Rio de Janeiro

COMPOSITION OF BRAZIL'S EXPORTS, 1960-69



△ INCLUDES SOYBEANS, CASTOR OIL, CORN, PEANUTS, ORANGE JUICE, BRAZIL NUTS, SISAL, WOOL, HIDES AND SKINS, AND TOBACCO LEAF.
* INCLUDES MISCELLANEOUS FARM PRODUCTS, LUMBER, ORES, AND MANUFACTURED EXPORTS.

of Brazil's Agricultural Frontier

Over a 20-year period (1948-68) Brazil has had notable increases in agricultural production at an average annual rate of about 4.2 percent—a very healthy growth compared with most other developing countries. A large part of this expansion in agricultural production has been the result of putting new land under cultivation in frontier areas in Brazil's south central States where areas of soils exist that can be farmed using limited modern technology without short-term soil exhaustion. Other factors have been greater buying power of the Brazilian population as real per capita income has increased within the country in recent years and greater export markets for important products such as cotton, cocoa, sugar, and corn because of increased populations and buying power in customer countries.

Because the preponderance of Brazil's export earnings are from sales of agricultural products, the country's continued economic health as its population grows depends on maintaining its expansion of agricultural output. Domestic production and foreign sales of manufactured goods and nonagricultural raw materials are advancing rapidly, but exports in both categories still provide only a small part of foreign earnings.

What are Brazil's chances for increasing its agricultural output and exports?

One important factor in the 1948-68 period, per capita income, rose strongly in 1969 as the gross domestic product in Brazil jumped 9 percent—one of the most rapid growth rates for any country in the world. Economists in the Brazilian Government are forecasting annual growth rates of 7 percent to 9 percent for the next 4 years. Certainly Brazilians will continue to buy larger and larger amounts of farm products in the near future and will stimulate agricultural output.

A measure of the continued growth of Brazil's export markets is that the country's export earnings rose 22 percent in 1969—mostly due to sales of farm products. Both traditional items (sugar, cocoa, cotton, beef) and some less well-known exports (soybeans, castor oil, corn, orange juice) did well. A further 10-percent gain in exports is forecast for 1970. Brazil should not lack markets to encourage agricultural output.

And at first glance it would seem that Brazil, with half the land area in South America and one of the world's largest chunks of uncultivated territory, could easily increase farm output by following its previous pattern—putting more land in agricultural production. But, paradoxically, Brazil, with vast stretches of uncultivated land, may be running out of untouched land profitable to cultivate by the methods chiefly in use at present.

The old frontier

Twenty years ago there was still a rugged agricultural frontier in south-central Brazilian States such as Paraná. Semi-migratory workers and itinerant farmers cleared virgin land by the slash-and-burn method, planted crops for themselves (usually corn and beans) on the partially cleared land, and continued clearing and planting operations until the owners, who usually acquired large tracts of land at one time, considered the land ready for commercial cropping. The owners could expect decades of profitable crop production with minimum technological investment from these soils before fertility

decreased markedly enough to halt ordinary crop production.

Today if one flies across Paraná from São Paulo on the coast to Iguacu Falls (the world's largest waterfall) on the border of Brazil, Argentina, and Paraguay—a trip of about 500 miles—he crosses cleared land all the way until he reaches the virgin forest of Iguacu Falls National Park. The opportunity for further expansion by traditional methods in the south-central States is nearly gone. Most of the land in Paraná, São Paulo, and southern Minas Gerais and Mato Grosso has been cleared and planted or put in pasture.

The new frontier

Agriculturalists who want to increase production by putting more land in cultivation must now try the tropical soils of the Amazon Valley in Brazil's north. But these soils deteriorate rapidly under traditional methods of cultivation and are exhausted in only a few years.

If one flies over northern Brazil, one can see many areas that were once cleared and planted to crops but which since have been abandoned as fertility of the soil was depleted. Most of the clearing efforts in these areas so far have been by subsistence rather than commercial farmers. In the past such areas have been commercially unproductive because farming techniques have been technologically inadequate to meet the problems of tropical soils and climates.

High temperatures encourage chemical reactions that cause the loss of organic matter in soils; large rainfall or rainfall concentrated into a short rainy season can cause not only physical erosion but chemical solution or leaching from soils most of the minerals necessary for plant growth; high rainfall and temperatures stimulate huge growths of weeds that rob soils of the plant nutrients needed for crops; and many crop pests have ideal conditions for multiplication and feeding.

Scope of the new frontier

The Brazilian Ministry of Agriculture recently completed an exploratory soil survey in the areas west of the States of Piauí, Bahia, Minas Gerais, and São Paulo—the western two-thirds of Brazil. The survey shows that about 467 million acres have good potential for cultivated crops using an advanced level of technology without irrigation. These are soils that have good structure and texture, receive adequate rainfall, are not very susceptible to erosion, and may be mechanized. In contrast, the new land of high productive potential that can be profitably cultivated under the present management system used in nearly all of Brazil is estimated at only 24 million acres.

The soil survey also found that an additional 516 million acres of less desirable soils could be brought under cultivation in western Brazil at the advanced level of technology but that only 16 million acres of such soils could be profitably farmed by traditional techniques.

The scale of the new frontier is indicated by the following figures. At present Brazil has 74 million acres under cultivation (land in crops). The United States harvested 294 million acres in 1969.

But the scope of the new frontier can be measured not only by area but also by the gap in technology that it is necessary



Before and after on the old frontier in Brazil's south-central area. Above left, land cleared just after World War II for a banana plantation. Above right, a typical small farm. Below, a stand of coffee trees in northern Paraná.



Two approaches to Brazil's new frontier. Right, recently cleared and burnt-over land planted to corn. Left, an agronomist explains the results of a plant tissue test for detecting plant nutritional deficiencies to a Brazilian farmer in São Paulo.



to bridge before the potential farmland of Brazil's north can be effectively utilized. At present, only about 10 percent of Brazil's farmland, north or south, is being cultivated using an advanced technology.

Such advanced technology includes the identification of trace elements or other plant nutrients that must be compensated for by additions to fertilizers if healthy crops are to be grown, proper timing of fertilizer applications and the proper balancing of plant nutrients, crop rotation systems that prevent or retard leaching of existing nutrients from soils, maintaining original vegetation over specific areas and other conservation measures, and the best uses of machinery, pesticides, and herbicides for specific conditions.

In summary, although Brazil has vast potential for increased crop production through opening new lands and improving yields in areas already under cultivation, the country has a limited capacity for increased agricultural output using its traditional farming methods.

Can Brazil leap its technological barriers?

It is already gathering impetus to try. The recent exploratory soil survey by the Ministry of Agriculture was just one step. Research on the best farming techniques for specific areas of Brazil is being carried out at agricultural experiment stations such as those at Matão and Campinas and Piracicaba in São Paulo, at Viçosa in Minas Gerais, at Belém in Pará, and at Recife in Pernambuco. Work in other tropical areas in Africa and Asia and Australia is being scrutinized for applications to the agricultural circumstances in Brazil.

Attention is also being paid to a number of factors that are just as important as expertise if adoption of modern farming techniques is to make broad headway in Brazil. Farmers must be convinced, either by formal education or informal rural extension, that their traditional methods can be improved upon. Financial incentives for increased production must be established and made widely available. Many farmers will need capital or credit to purchase fertilizer, seed, machinery, and other inputs necessary to a change in farming methods. And strengthened marketing systems (better and more roads, commodity price regulations, and more storage facilities for temporary surpluses) must be established to absorb increased production without confusion.

A number of moves have already been made in recent years in Brazil to encourage agricultural output. These include: a strengthened minimum price program; substantial increases in farm credit at subsidized, negative real interest rates; incentives for investment in fertilizer production and distribution facilities; removal of duties on imports of agricultural inputs such as machinery, seeds, and fertilizer; exemption of agricultural inputs from the 15-percent to 18-percent value-added tax and reduction or exemption of this tax for agricultural exports; reduction, by half, of income tax liabilities for all corporations investing in agriculture or other approved enterprises in north and northeast Brazil; reduction of personal income tax liabilities for investments made in agriculture; exemption from income tax during the first 2 years and reductions in tax for the next 2 years for corporations formed to engage in agriculture; liberation of exports and a more flexible currency-exchange-rate policy; and improvement of port and marketing and distribution facilities.

The effect of these incentives has not yet shown up in average national yields of major crops, but individual farmers and farming areas have demonstrated successful response. For

example, one 4-H member in Minas Gerais obtained a corn yield of 200 bushels per acre; the average corn yield in Brazil is 25 bushels per acre. Although most beef cattle in Brazil do not reach market weight (about 1,000 lb.) until they are 4 years of age, some cattlemen in Rio Grande do Sul are raising animals to market weight in only 2½ years or slightly less by using planted, improved pasture and pasture rotation.

Trade implications

If Brazil upgrades its farming methods to increase yields in already cultivated areas and to make possible the establishment of permanent and commercial agriculture in the tropical north, its agricultural exports should continue to grow at a healthy rate and Brazil could become an increasingly important exporter of agricultural commodities.

But if yields in established farm areas are not stepped up and if successful techniques are not applied to farming in the tropical north, Brazil's agricultural exports could decrease rather than expand. If total farm output remains static, Brazil's growing population and rising standard of living will increase domestic demand for agricultural products of all types and less of total output will be available for export.

Brazil Fights Livestock Disease

The first stage of a national plan to combat hoof-and-mouth disease in Brazil will be carried out during the years 1970-73 and will eventually evolve into a compulsory, systematic, and controlled program of vaccination of all cattle over the age of 4 months within a seven-State area—Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Minas Gerais, Bahia, and Espírito Santo.

The campaign will also entail improvements in sanitary measures in these States, enlargement of laboratory facilities for vaccine storage, expansion of the network of seriological diagnosis laboratories, and installation of various border quarantine stations to control interstate and international movement of livestock.

The seven States listed comprise the major cattle-producing area of the country and contain 63 percent of the livestock in Brazil. Foot-and-mouth disease exists throughout the area, and it is estimated that it accounts for a 20-percent morbidity rate annually among animals contracting the disease and a 6.5-percent mortality rate. It is also estimated that in the 1960-68 period this disease caused a loss of \$671 million to the Brazilian economy. Ranchers regularly incur losses in cattle value through weight loss, reduced milk production, and sterility and mortality in infected cattle. The disease has also restricted Brazil's export market in countries free of the disease.

The broad-scale national plan is based on successful pilot projects already in progress. In these areas a substantial reduction in the incidence of the disease has been noted. In Paraná, for example, the morbidity rate in vaccination areas is barely 1.8 percent; and further to the south in Rio Grande do Sul the rate has fallen to an estimated 0.1 percent.

Livestock production, one of Brazil's major economic sectors, accounted for 8.4 percent, or slightly more than \$2 billion, of the nation's gross domestic product in 1968. It is estimated currently that there are more than 65 million head of cattle in Brazil. But despite the large herds and economic importance of cattle raising, the net annual increase in herd size is a meager 1.7 percent.

Brazilian Agriculture and Its Exports

By ROBERT W. JOHNSON

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In 1968 and 1969 Brazil enjoyed a boom in exports of farm products that contributed to rises in export earnings of 13.7 percent and 22 percent, respectively. Coffee, cotton, cocoa, and sugar were the four biggest agricultural export earners in 1969 in the order listed with coffee the giant among the group.

Brazil has had periods of great economic growth based on spurts in agricultural exports in the past. Some of these bygone agricultural export booms collapsed because of changed economic conditions in world markets, some because of lack of technological advance and sufficient organization of Brazilian production and marketing, and some because of a combination of reasons.

Hopefully, Brazil's present economic sprint will be translated into solid and lasting economic gains. One sign that this may occur is the funneling of funds into efforts that will stimulate both agricultural and general economic growth—improving and expanding educational facilities, building more and better roads, organizing farm marketing and export systems, researching improved agricultural technology, and providing financial incentives and credit for improving farm productivity. Another favorable indication is that Brazil's present rapid growth in agricultural exports comes from sales of a variety of products.

Brazilian agriculture enjoyed its first great stimulus in the

middle of the 16th century when banks in Portugal and Holland began financing sugarcane growing to supply sugar to the lucrative European market. Brazil soon became the world's leading sugar producer and maintained that position for about a hundred years. Then serious competition began from plantations in Central America and the Caribbean. Brazil remained an important sugar producer, but its sales volume was overshadowed by the output from the areas to the north. This competition brought about some diversification of Brazilian agricultural output, but each new expansion of these diversified activities opened up new lands potentially suitable for sugarcane.

After the dislocations of the 18th century in Brazil, when many people's attention turned to exploration for and mining of gold and diamonds, agriculture had another upswing based on rubber, coffee, and cocoa.

Rubber exports began in 1827 from the Amazon Valley and by the late 19th century some rubber exporters were leading lives of luxury in the boom towns along the Amazon River. They built a beautiful opera house for themselves at Manaus (more than thousand miles upstream from the mouth of the Amazon), imported entertainers from Europe to perform in it, and sent their shirts to Paris to be laundered.

Brazil's rubber exports were 28 percent of the country's total exports for the 10-year period 1901-1910 and reached their peak in 1912 when 42,000 metric tons of rubber were shipped. But the rubber barons' prosperity quickly declined. Brazil's production, which came entirely from wild rubber trees and was primitively and somewhat irregularly processed,

*Right, men loading hand-cured rubber at Manaus, the Amazon River port, in the 1930's.
Left, washing and drying coffee at the Boa Vista Fazenda in the State of São Paulo in the late 1920's.*



lost its market to more uniform-grade rubber produced from trees on plantations in southeast Asia and Ceylon.

Coffee culture was first introduced in Brazil in 1729 in tropical Pará, where it met with little success. Later plantings were made in Bahia, Espírito Santo, Rio de Janeiro, Minas Gerais, São Paulo, and Paraná. The first coffee exports were in 1800, and by 1859 they had reached 4 million bags annually. Development of coffee production in the Western Hemisphere was encouraged by the appearance of the destructive coffee fungus *Hemileia vastatrix* on coffee plants in Asia and Africa.

By 1900 Brazil supplied 85 percent of total world coffee exports—or about 13 million bags a year. But as other countries became successful coffee producers Brazil's share of the world market gradually declined to 75 percent in 1925, 43 percent during the 1950's, 37 percent during 1960-64, and 34 percent for the period 1965-69. As competition became stiffer, coffee could only be economically produced on the most fertile soils, and many original coastal coffee areas that had suffered from erosion and overcropping were abandoned to other crops while coffee moved inland to new soils.

Coffee's share of Brazil's export earnings went from 53 percent in 1901-1910 to a peak of 68 percent in the 1920's. Brazilian coffee exports then fell to 41 percent of the country's total foreign sales for the period 1965-69. Actual value of sales gradually increased over this time span, however.

Recent agricultural trends

After World War II, Brazil's emphasis was on industrialization rather than strengthening the broad spectrum of the coun-

try's agricultural output. Coffee was the only commodity for which there existed an effective price-support program. Efforts were made to maintain low prices for food crops so that industrial workers would have inexpensive food. Sometimes price controls were used.

During this period considerable new land was opened up to agriculture, and a sizable quantity was devoted to coffee. Production of food output was also increased, but sometimes disappointing quantities reached metropolitan markets because of lack of profit incentives for farmers, poor transportation facilities, and other factors.

The average annual rate of growth of agricultural output of all types for the period 1944-64 was about 4 percent a year. But at the same time average annual industrial growth was about 8 percent. Increases in demand for food outpaced the growth in marketed supplies and caused rising prices and food shortages. At times, for example, beef exports were prohibited and the Brazilian Government even sent airplanes and soldiers into the interior to locate beef herds and bring them to market.

Since the mid-1960's a number of incentives for investment in agriculture and for increasing food production have been instituted by governmental agencies, and with some success. Production of basic food crops has increased and prices are beginning to show more stability.

At the same time exports of a number of food and feed agricultural commodities (such as beef, soybeans, corn, and orange juice) have been augmented, although they are still a small part of Brazil's total agricultural export portfolio. Some other agricultural exports that have shown gains since the mid-1960's are sugar, castor oil, cotton, and cocoa.

Increases Foreseen in 1970 Brazilian Citrus Crops

All three of Brazil's major citrus fruit categories are expected to show gains in 1970 compared to last year's production. The largest increase is foreseen in the output of oranges, which could rise by 300,000 tons to 2.9 million metric tons. Tangerines may have a 28,000-ton increase to 235,000 metric tons, while lemons and limes may rise 2,000 tons to an output of 54,000 tons.

The State of São Paulo accounts for about half of Brazil's citrus production, with Minas Gerais, Rio Grande do Sul, and Rio de Janeiro the other major producing States. The orange crop in São Paulo, the only State where citrus is produced commercially for processing and export, is forecast at 1.5 million tons, 11 percent more than last year's.

Brazil exported about 60,000 tons of fresh oranges in 1969. This export volume was 16 percent below that of 1968, and 26 percent below the yearly average for the period 1966-68.

Fresh orange exports in 1970 are expected to be about the same as the low 1969 figure. The major citrus exporters have a pooling arrangement for fresh orange exports to the Netherlands, the United Kingdom, Germany, and France. The pool accounts for over 80 percent of total shipments and has set a quota of about 2.6 million export boxes (40 lb. each) for the 1970 shipping season which started in mid-May. This is practically the same as the number of boxes shipped during the 1969 season.

The pool also organizes shipping space and dates to assure orderly supplies of Brazilian fruit in the European market. Space is readily available, but ocean freight rates have in-

creased nearly 20 percent over those applicable last season.

Although the quality and size of Brazilian oranges to be shipped to Europe this season are expected to be much better than in 1969, the prices received may be somewhat lower because of the larger crop. Further, processors are offering much lower prices for oranges this year owing to a drop in export prices of juice because of the large stocks of concentrated orange juice in other exporting countries.

—Based on a dispatch from SHACKFORD PITCHER
U.S. Agricultural Officer, São Paulo

Brazil's Farm Credit Amplified

Brazil's farmers have a new source of credit in a recently initiated program that will cost an estimated \$100 million. Credit funds are to be administered by Brazil's Central Bank through FUNAGRI, a governmental fund for agricultural and industrial development, and will be distributed as short-, medium-, and long-term loans. The short-term loans (up to 2 years) will be used exclusively to finance working capital for agricultural development. Medium-term loans (2 to 5 years) will be extended for seed production, pasture planting and improvement, soil conservation measures, and the purchase of light and power equipment, farm machinery and vehicles, and breeding livestock. Long-term loans (5 to 12 years) will be used for the construction or installation of such facilities as sheds, loading platforms, water tanks, stables, silos, irrigation works, and storage and processing equipment and buildings.



From the cave the "Champignon de Paris" goes to market, left, or to a cannery, right.



From Caves to Cans:

France's Mushroom Industry

At the time Caesar conquered Gaul he believed mushrooms to be the food of the gods and decreed they be fed to his troops to increase their strength and virility. Today, over 2,000 years later, the mushroom still is very much at home in modern Gaul and the French rank their cultivated mushroom, the "Champignon de Paris," seventh among vegetables produced in that country in value of annual gross sales. The edible fungus, packed with vitamins and minerals such as thiamin and iron, forms the basis of many a culinary delight served at French tables and is also an up-and-coming export item in canned or freeze-dried form.

In the late 18th century French gardeners learned to grow mushrooms in limestone caves near Paris, which for years was the center of the industry. In recent times, however, the expansion of the Paris suburbs together with high land and labor costs in that area have caused a shift in mushroom production to the Loire River Valley. France's mushroom growers are a relatively small fraternity, reportedly numbering about 411, and the industry employs some 6,000 workers. The modern French mushroom industry, like the vegetable itself, seems to have sprouted in an incredibly short time. From a modest 36,192 metric tons in 1963, the production of both cultivated and noncultivated mushrooms sprang to 66,000 tons in 1969. This rapid growth was partly owing to the improvement of cultural methods.

Unlike green plants, mushrooms cannot manufacture their own carbohydrates and so are grown in an organic compost containing carbohydrates. The French have found that large caves furnish the temperature, humidity, and ventilation required by the underground vegetable.

Both fixed-bed and movable-tray systems of culture are employed in the French industry. The latter system, whose output accounts for 70 percent of the total mushroom crop, calls for two different rooms—one for growing spawn in the beds and the other for growing the mushrooms. This tray system is becoming increasingly efficient, owing in large part

to the increasing use of conveyors and loaders which link the rooms and speed up the transfer process. The bed method, which accounts for 30 percent of France's mushroom production and supplies mainly the fresh market, will probably disappear within the coming years as it is edged out by the more efficient tray system.

When they emerge from the cave, French cultivated mushrooms follow one of two routes—to the can or to market. Domestic consumption, which rose steadily from 15,887 tons in 1963 to 25,000 tons in 1968, is being spurred by SOPEXA, the French food promotion agency, with advertisements on television and in magazines.

Wild mushrooms from France are also well respected in gourmet circles around the world. Perhaps the most famous is the truffle—a round, black, wrinkled mushroom that grows about 6 inches underground around the roots of scrub oak trees. Trained pigs and dogs are used to sniff them out. Truffles are a mysterious fungus—no one has been able to cultivate them successfully. Other varieties of wild French mushroom are cèpes, chanterelles, and morilles.

The mushroom canning industry is located near the production center in the Loire Valley. Here some 33 canneries produced 55,000 tons of canned mushrooms in 1969—quite an increase from the 29,420 tons produced in 1963. France has just begun to produce freeze-dried mushrooms, and the outlook is for continued production via this new method.

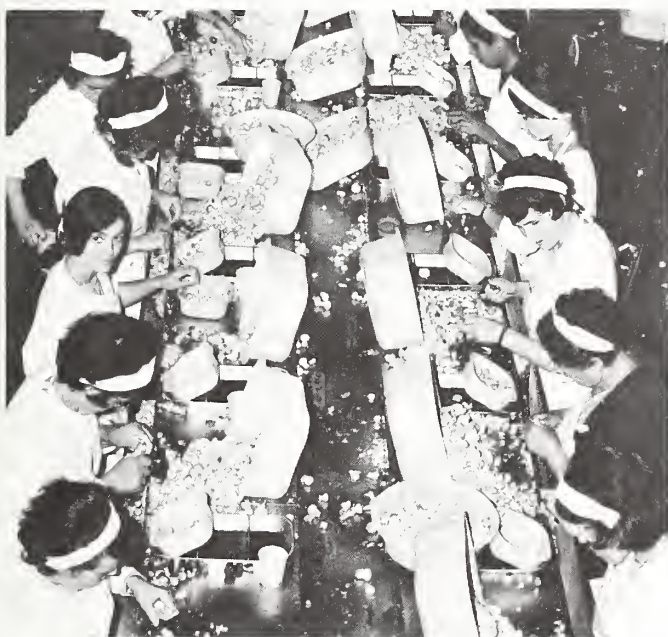
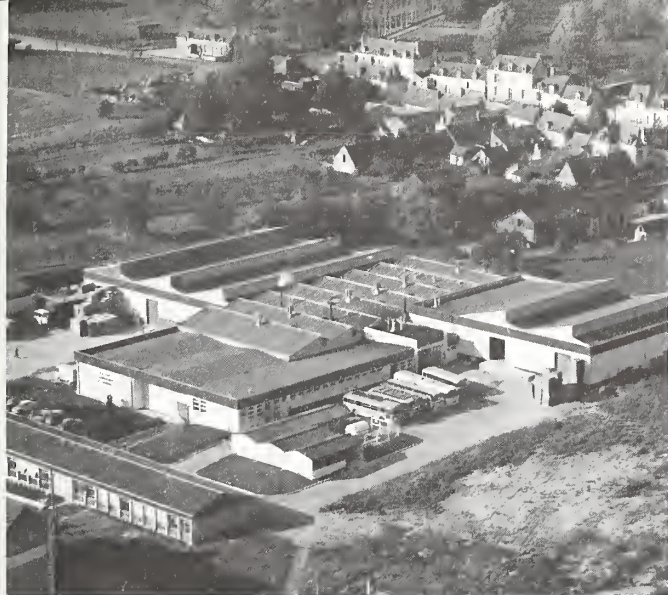
Exports of French mushrooms have spurted ahead in recent years—climbing from 6,482 tons in 1963 to 19,000 tons in 1969. Germany is the largest purchaser, taking 15,000 tons in 1969. Smaller amounts were exported to Belgium, Luxembourg, the United States, the United Kingdom, and Switzerland.

With both domestic consumption and exports of mushrooms exhibiting a steady rise, French growers and canners are optimistic about the future of their underground product.

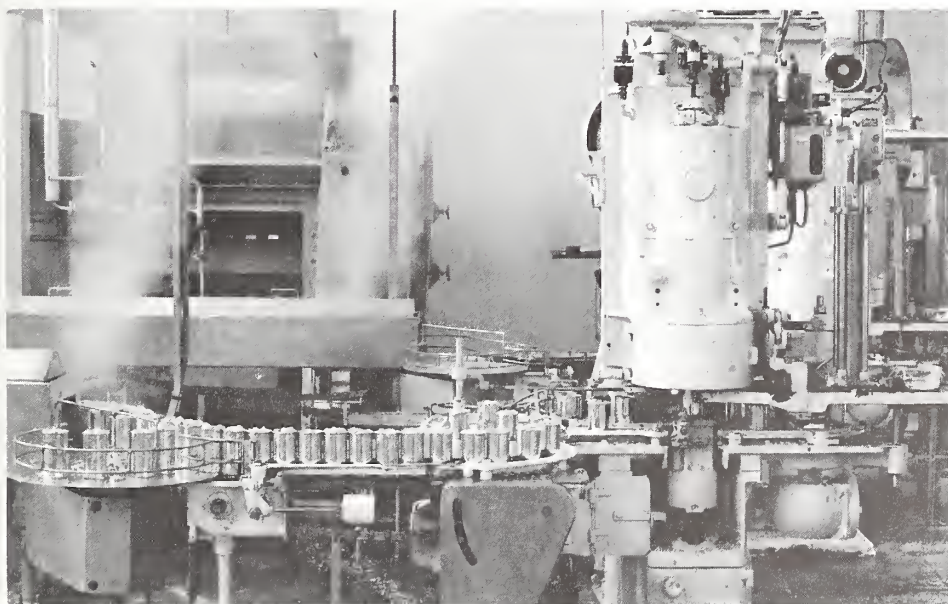
—By CHRISTIAN PONSOT
Agricultural Economist

Office of the U.S. Agricultural Attaché, Paris

The above article is the first in a series devoted to the major mushroom producers of Western Europe.



The mushroom canning process as carried on in the Beaufort-en-Vallée factory, upper left, involves left, sorting; above right, washing; below left, canning; and right, weighing.



Argentina, Paraguay: News of Agriculture

These three brief articles are concerned with events and developments that may be of some consequence for the foreign agricultural trade of the two countries (both covered by the attaché office in Buenos Aires.)

Argentina Acts To Cut Beef Prices

A strong consumer demand and below-normal supplies have caused the Argentine Government to take actions in an effort to halt mounting domestic beef prices. At first these steps included measures to reduce demand which proved only partly successful. Later the government attempted to increase the amount of beef available to the domestic consumer.

Cattle prices during January-April increased an average of 16 percent over a corresponding period last year. The increase in April alone was 20 percent. The government has been concerned with the effect of beef-price increases because of its effect on the cost of living. The Secretary of Domestic Commerce revealed that of the total increase in the cost of living index so far in 1970, one third was due to the rise in meat prices. Of the food component of the index, meat accounted for half of the increase.

Reasons for the price increases are several:

- Below-normal cattle marketings. Argentine officials say that cattle deliveries so far this year are down 4.6 percent from the same period of 1969 (down 2.4 percent in terms of tonnage).

- Strong export demand. Beef exports in January and February 1970 reached 116,000 metric tons (carcass-weight equivalent), up 10.5 percent from a year earlier. The increase in exports rose to 11 percent before June 1. Because of a smaller supply of cattle, export packers were forced to compete more strongly with buyers for the domestic market.

- High domestic consumption. The price increases and the drop in domestic supplies had little effect on consumption, which was spurred by a March 1 wage hike. Domestic consumption during January-April (in the Buenos Aires area) declined only 2.2 percent from a like period of 1969, despite sharply higher prices.

Government actions are resisted

Economic authorities of the Argentine Government have become increasingly concerned with the rising beef prices and have proposed measures to curb them. These have been strongly resisted by the Department of Agriculture and by farm organizations, who contended that higher prices would be an incentive for increased cattle production which, in turn, would result in larger supplies of beef for export and domestic consumption.

The measures finally adopted by the government were so hotly contested that both the Secretary and Undersecretary of Agriculture resigned. These measures included the temporary establishment of what might be called "meat holidays"—2 days per week on which beef could not be served in public eating places—as well as the establishment of maximum markup margins for sellers of meat and the use of cheaper cuts of beef.

Critics opposed the corrective measures on grounds having

at least some validity. Beefless days have been tried in the past and proved to be ineffective in reducing consumption. The potential of price restrictions is recognized, but these would require vigorous enforcement. And promoting the consumption of lower quality beef seems to be a long-range—not a short-range—solution.

Government grants tax concessions

The government later announced tax concessions on cattle deliveries made in June and July at the Buenos Aires and Rosario markets. Whereas the earlier measures had as their purpose the curbing of cattle and beef prices by reducing demand, the subsequent action was taken in an effort to draw more steers into the slaughter supply—to reduce prices by increasing supply.

Under the new measure, the government allowed ranchers to take deductions on their taxable income for sales of steers of more than 904 pounds up to the end of July.

Resolution of the problem of high prices appears to lie in an upswing in cattle marketings. Although this increase in marketings is expected to take place in the near future—about the time the frosts arrive and grass gets scarce—an extraordinary demand for beef could cancel out any downward price movement. Prices would probably remain at present high levels rather than receding to the lower ones that had prevailed previously.

—Based on dispatches from JOSEPH C. DODSON
U.S. Agricultural Attaché, Buenos Aires

Argentine Feedgrain Output Up

Argentina saw its production of feedgrains mount during the 1969-70 crop year, with the largest corn crop in almost 30 years and records in grain sorghum and rice. Exports of these commodities are moving in heavy volume and planting of the 1970-71 wheat crop already is underway. Seeding of corn and sorghum starts in September.

Wheat exports in calendar year 1970 are expected to be about 2.2 million tons, slightly less than in 1969. Some 1.6 million tons of this is bread wheat; the balance—500,000 to 600,000 tons—is durum. About 1 million tons of the bread wheat will be sold to Brazil under a bilateral agreement. The remainder will go chiefly to other South American markets, including Peru, Chile, and Paraguay. Some small sales have been made to Europe, but the government is trying to channel the available supplies to nearby traditional markets.

Wheat area expected to decrease

The area planted to wheat for the 1970-71 crop is expected to decrease, thereby continuing the downward trend of the past several years. Area declined from 16.5 million acres in 1968-69 to 15.3 million in 1969-70. Planted area in 1970-71 is expected to be 5 to 10 per cent below the 1969-70 level. With no increases in wheat support in sight, farmers are expected to divert wheat acreage to corn, grain sorghum, and sunflowerseed production.

Corn exports for CY 1970 are projected at 5.5 million tons, the highest tonnage since 1937. By comparison, a little less

than 4 million tons were shipped in 1969.

In March 1970, the first month of the current corn-shipping season, 689,000 tons were exported; the level rose to 795,000 tons in April. Of an estimated 5.7 million tons of corn available for export from the 1969-70 crop, trade sources estimate that about 3.5 million tons had been sold by mid-May.

Outlook for other feedgrains

Sorghum exports for the marketing year (ending March 1971) are projected at 2.3 million tons, almost 1 million tons more than last year. Most of the supply has already been sold. Japan has bought most of the 1.6-million-ton sales to date. It expects to buy about 1.2 million tons in 1970. Area planted to sorghum in the 1970-71 crop year is likely to continue the trend of steady increases started in the 1950's.

Rye is grown chiefly for forage purposes with grain a residual product. Area planted to rye in 1969-70 was about the same as the previous year, and production increased only slightly. Not much change in area is expected for the new crop; it will hover around the 6-million-acre mark. Exports may rise to 25,000 tons, nearly twice the 13,000 tons sold in 1969.

In contrast to the increases expected in CY 1970 exports of corn, grain sorghum, and rye, export trade in oats, barley, and millet is expected to drop. For oats the decline is expected to be 4.5 percent, from 131,000 tons last year to 125,000 in CY 1970. Export trade in barley is expected to decrease by 20 percent, from 188,000 tons to 150,000 in the current calendar year. Millet exports are expected to drop to 85,000 tons from last year's 116,000 tons.

Rice exports a record

Exports of rice in 1969 totaled a record 73,560 tons, up sharply from 1968. Chile was the major buyer with purchases of 31,733 tons. This year there is a major concern over disposal of about 370,000 tons of milled rice. Domestic consumption is estimated at about 140,000 tons, leaving 230,000 tons for export, carryover, or both. Trade sources indicate that little export business is being done in rice, although negotiations with Peru have been reported. Rice dealers reportedly hope to ship about 140,000 tons during the year, but this may not be feasible without some form of government subsidy. There is no indication that such a subsidy will be forthcoming. A more guarded estimate is that 100,000 tons will be exported during the year.

Both planted area and production were at record levels in 1969-70. Rice-growing area was up by 10 percent to nearly 259,500 acres; and production was up by 13 percent to 390,000 tons (rough rice). Rice-growing area has been increasing each year since 1965-66. The trend may be interrupted by the 1970-71 acreage, however, because of farmer discouragement with the low prices being received for the 1969-70 crop.

—Based on a dispatch by JOSEPH C. DODSON
U.S. Agricultural Attaché, Buenos Aires

Paraguay's 1970 Prospects Bright

Last year—in itself a bad one—closed a decade of slow overall growth for Paraguay, and 1970 gives promise of continuing this growth. Soybeans, tung nuts, tobacco, sugarcane, corn, and castor beans are expected to have the highest production since 1965; exports for the year will probably increase

over last year; and a drop is seen in the level of imports. Paraguay's year is expected to be one of economic stability, and a surplus is foreseen in the balance of payments.

Exports for 1970 are estimated at \$60 million. This figure is based on the assumption that world market prices will remain near present levels. Exports in 1969 totaled \$51 million. Thus, there could be a \$9-million increase over last year.

Based on figures available through April 30, imports in 1970 are expected to be around \$68 million compared to \$70.4 million for 1969. A surplus of \$3 million to \$5 million is forecast in the balance of payments.

Production records expected in six crops

Wheat. Land is now being prepared for the 1970 wheat crop, and planting will get underway this month. The Ministry of Agriculture has set a goal of 35,000 metric tons for 1970. There are good prospects that this will be achieved. Last year's crop was 27,000 tons.

Corn. Production in 1970 will probably reach a record 260,000 tons. Effects of the mechanization which was introduced in the production of this crop in 1969 should be seen in 1970.

Cotton. This is one of the few crops that are expected to have a lower production in 1970 than in 1969; first estimates indicate that the current crop will be about 46,000 bales compared with 55,000 in 1969.

Tung. Oil production is expected to reach 16,000 tons compared with 11,500 tons in 1969. The tung trees were hit by frost, but apparently with little effect.

Tobacco. The crop is doing well, although it will probably not be significantly larger than the 1969 record crop of 24,000 tons.

Coffee. The harvest will be small because frost and drought severely hit the producing areas.

Soybeans. The 1970 crop is currently estimated at 40,000 tons, compared with 30,000 tons in 1969.

Castor beans. Production is expected to be better than last year. This year's output is estimated at 13,000 tons, compared with 12,000 tons in 1969. There is a strong world market for this commodity.

Rice. Output is expected to rise. The Ministry of Agriculture estimates the 1970 crop at 32,000 tons, compared with 26,000 in 1969.

Sugar. Sugar production in 1969 was 42,300 tons. The Ministry of Industry and Commerce estimates that the 1970 production, scheduled to begin this month, will amount to 48,000 tons.

Fruits. Production of fruits in general, and citrus in particular, seems to be above average.

Meat. As of last month approximately 45,000 head of cattle were slaughtered by the export packers. This is more than twice the number for the same period in 1969. The government has authorized a 250,000-head export quota. There is some speculation that the export kill will not be more than 180,000 head for the year, although a total kill of 200,000 is possible.

Production of hogs will probably increase sharply in the second half of this year when domestic prices will rise because of strong competition between export and local meat packers.

The poultry industry continues its upward trend—gaining in quantity and quality of output.

—Based on a dispatch from GORDON H. LLOYD
Assistant U.S. Agricultural Attaché, Buenos Aires

A New Boost for Tropical Agriculture

On a palm-fringed clearing near Ibadan, Nigeria, plans for a tropical "green revolution" are beginning to take shape. There, the International Institute of Tropical Agriculture (IITA), which this month celebrates the third anniversary of its formal establishment, is sponsoring a vast research effort to improve the production and quality of tropical food crops.

Established by the Ford and Rockefeller Foundations in cooperation with the Government of Nigeria, IITA is truly international in both character and outlook. Its program is bringing together agricultural researchers from many countries in an attempt to help areas of the humid tropics reach their full potential of farm productivity.

A difficult challenge

When the Ford and Rockefeller Foundations began planning the Institute they realized it would be one of their toughest agricultural projects to date. For the most part, farmland in Africa suffers from poor land management and low fertility, and resources for improvement are limited. Under the traditional pattern of farming—known as "bush-fallow"—farmers of the humid tropics clear an area of land and raise crops on it until its productivity is sharply reduced. They then move on to another area and repeat the process. Thus, large parcels of land lie uncultivated for years, and soil fertility and farm output eventually diminish. The high occurrence of weeds, plant diseases, and insects also aggravates the situation.

Agricultural scientists, however, are convinced that with the aid of proper soil and crop management productivity can be greatly improved. Nigeria, the most populous country in Africa, was chosen for the site of tropical agricultural study because its ecology is representative of much of the African tropics. With a population density of about 175 persons per square mile, Nigeria is dotted with small, scattered farms which often supply little more than subsistence.

The Institute, situated on 2,200 acres carved out of southern Nigeria's dense brush and forest, will not be completed until late 1971. However, some research facilities have already been constructed, and preliminary work is now underway in the examination of closely controlled plots which have been planted with various tropical food crops.

Because earlier research has produced better varieties of the area's principal export crops—such as cocoa, palm oil and rubber—IITA will concentrate primarily on improving tropical food crops. In the Nigerian diet these include cowpeas, sorghum, millet, corn, rice, soybeans, yams, cocoyams, and cassava. By crossbreeding plant varieties already grown in the

area, and by conducting a worldwide search for new varieties, scientists at the Institute hope to develop hardier, more nutritious crops which can be cultivated throughout the world's tropical areas.

The work in plant breeding and genetics will be closely supported by research in soil productivity. To encourage soil and crop management and prevent long periods of fallow, scientists will explore new systems of crop rotation and interplanting. They also plan to experiment with weed control and soil-improving legumes and grasses. At the same time, agricultural engineers will work to assure proper land preparation through improved irrigation and conservation methods as well as better use of farm machinery.

Because insects and other organisms create a special problem in the hot, humid tropics, another important area of IITA research is plant protection. Specialists in entomology and plant pathology will seek methods to control pests and diseases that affect crop production and storage.

Other significant, although peripheral, objectives of the institute are: to provide professional training in tropical agriculture; to publish research findings and recommendations of IITA; to distribute improved plant materials to other research centers for use in breeding and improvement programs; to establish an information center and library of the world's literature on tropical agriculture; and to organize international, regional, and local conferences for the discussion of problems and progress in the field of tropical agriculture. In achieving these goals, the Institute hopes to make use of facilities at the nearby University of Ibadan and within the city of Ibadan itself—the capital of Nigeria's Western State with a population of about 600,000.

Early centers

IITA has two dramatic precedents for its challenge—the International Rice Research Institute (IRRI) in the Philippines and the International Maize and Wheat Improvement Center (CIMMYT) in Mexico. Established in the early 1960's by the Ford and Rockefeller Foundations, these two centers have helped revolutionize crop production in the areas where they operate. The greatest success to date has been in South and East Asia, where high-yield varieties of rice developed by IRRI have truly begun a "green revolution." CIMMYT has had its best results in improving the production of wheat, corn, and potatoes. Another sister institution, the International Center of Tropical Agriculture (CIAT), is now being established in Colombia. As a center for the study of agriculture in the lowland tropic area stretching from Central America through Brazil, CIAT will concentrate primarily on improving livestock production.

The initial outlay of funds for construction and equipment at IITA was financed by the Ford Foundation at a cost of US\$14.5 million. The Ford and Rockefeller Foundations plan to support the Institute jointly with annual grants of up to \$75,000. The U.S. Agency for International Development has contributed \$450,000, and the Canadian Government has approved a grant of Can\$3.7 million over a period of 5 years.

The Institute's director is Dr. Herbert R. Albrecht, a plant breeder and geneticist, who was formerly president of North Dakota State University.

—K.J.

Dr. Fields Caveness (left), an IITA nematologist, inspects plants at IITA with research aide Jacob Ojewi.



Secretary Hardin Announces

New Level of Estimated 1970 Meat Imports

Secretary of Agriculture Hardin announced on June 30 that 1970 imports of meat subject to the Meat Import Act are now estimated at 1,140 million pounds. The new estimate is based upon revised voluntary restraint levels for principal foreign meat suppliers for calendar 1970. It compares with the previous restraint level for the year of 1,061.5 million pounds.

The Secretary made the announcement after President Nixon had issued a proclamation under Section 2(c)(1) of the Meat Import law to place a limitation on imports of meats covered by the Act—primarily beef and mutton. At the same time, the President suspended the limitation, as authorized by the law, after determining that this action was required by the overriding economic interest of the United States, giving special weight to the importance to the nation of the economic well-being of the domestic livestock industry.

To assure that meat imports would not be permitted to enter without limitation during the balance of this year, the President then instructed the Secretaries of State and Agriculture to readjust the voluntary restraint program (which has been in effect since the fall of 1968 with the governments of the principal supplying countries) to limit imports of these meats to not more than 1,140 million pounds during calendar 1970.

Secretary Hardin indicated that the new actions apply only to the balance of the current year and do not establish a precedent for action which may be taken in 1971.

The Secretary also stated that a regulation is being issued which will stop further transshipments through a third country of meat originating in Australia, New Zealand, and Ireland. The transshipment of meat from Oceania through Canada has been an important factor in raising U.S. meat imports to a level that required an increase in the third quarterly estimate.

In an Executive Order issued simultaneously with the proclamation and suspension of meat imports quotas, the President delegated to the Secretary of Agriculture authority to issue regulations limiting imports of meat under Section 204 of the

Agricultural Act of 1956, which is the basis of the voluntary restraint program. This will enable the Secretary of Agriculture, with the concurrence of the Secretary of State and the Special Trade Representative, to issue regulations if necessary to limit imports from any country which reaches its voluntary restraint level.

The Meat Import Law (Public Law 88-482, enacted in August 1964) provides that if yearly imports of certain meats—primarily beef and mutton—are estimated to equal or exceed 110 percent of an adjusted base quota, the President is required to invoke a limitation on imports of these meats. The quota level is 725.5 million pounds adjusted in accordance with the increase in U.S. meat production during the latest 3 years since the base period (1959-63).

The adjusted base quota for 1970 is 998.8 million pounds. The trigger point which required the President to take formal action under the Act was 110 percent of the adjusted base quota, or 1,098.7 million pounds.

African Countries Get Farm Loans

Two African countries—Zambia and the Ivory Coast—hope to improve their agricultural output as the result of loans from the World Bank. Zambia's loan of \$5.5 million dollars is earmarked for the establishment of commercial farms; the Ivory Coast's \$7.5-million loan will be used to step up cocoa production.

The Zambian project is designed to train and settle graduates from a training course, and other Zambian farmers with comparable experience, on 270 farms, each of about 170 acres. A total of 50 Zambian farmers will be entered into the course annually. Also to be developed are 30 farms of 500 acres each, to be made available to Zambian and non-Zambian farmers capable of managing farms of this size.

The Ivory Coast loan is to help finance the planting of about 46,950 acres of cocoa and the rehabilitation of 93,900 acres of existing plantations. Taken together, it is estimated that the two projects will raise the Ivory Coast's output of cocoa by some 28,000 tons a year over current production of approximately 150,000 tons. Full production is expected to increase the Ivory Coast's foreign exchange earnings by the equivalent of \$14 million a year.

Venezuela Promotes Fruit Exports

Venezuela is consolidating its citrus shipments to European countries under the guidance of the Fruit Development Fund, a nonprofit civic association that was created to stimulate and promote the country's fruit industry. A recent shipment, made with the Fund's assistance, was 40 tons of Venezuelan grapefruits to Italy. Exports to that country by the end of 1970 are expected to total 2,500 tons of citrus, especially grapefruit, but will include 15,000 boxes of tangerines and 10,000 boxes of Valencia-type oranges.

The Fruit Development Fund's program is fourfold: To increase the importance of Venezuela's fruit industry within the country's agricultural sector; to promote expansion of the industry within the country; to improve the industry's production, marketing, and industrialization techniques; and to build up the country's exports.

IMPORTS OF MEAT SUBJECT TO P.L. 88-482
[By months]

| Month | 1967 | 1968 | 1969 ¹ | 1970 ¹ |
|-----------------|-------------|-------------|-------------------|-------------------|
| | Mil. lb. | Mil. lb. | Mil. lb. | Mil. lb. |
| January | 77.4 | 80.7 | 41.9 | 124.5 |
| February | 58.5 | 72.6 | 50.4 | 100.7 |
| March | 61.9 | 64.1 | 136.1 | 112.0 |
| April | 58.8 | 78.3 | 90.0 | 88.7 |
| May | 51.5 | 56.1 | 80.5 | 62.0 |
| June | 69.6 | 105.1 | 85.7 | — |
| July | 88.7 | 86.4 | 107.1 | — |
| August | 92.2 | 108.6 | 141.8 | — |
| September | 89.7 | 115.5 | 121.4 | — |
| October | 91.8 | 102.1 | 108.3 | — |
| November | 82.3 | 95.8 | 51.4 | — |
| December | 72.4 | 35.6 | 69.4 | — |
| Total | 894.9 | 1,001.0 | 1,084.1 | — |

¹ Rejections which occur after entry is made are included in the published Census figures and amounted to 13.5 million pounds during 1969.



SIAL '68—where 49 countries exhibited their food products.

U.S. Exhibits at Fall Trade Fairs To Feature New Food Products

An exciting array of "new foods" will be introduced to the European trade this fall as U.S. foods travel the Trade Fair circuit with appearances in Brussels, Munich, Birmingham, and Paris.

The fall Trade Fair season will be launched in *Brussels* at the Second Food Industry Fair to be held September 2-7. This will be a return engagement for American foods. Last year's participation netted more than \$3 million in contracts for U.S. firms. This year over 60 booths will be exhibiting U.S. products ranging from fresh fruits and vegetables to "heat-able eatables," including some of the newest convenience foods. Emphasis will also be placed on foods geared for institutional users—hotels, restaurants, and food processors. Prospective buyers will be encouraged to try samples of the foods on display which will be prepared in a large demonstration kitchen.

Next on the agenda is IKOFA, the International Exhibition of Groceries and Fine Foods, scheduled for September 19-27 in *Munich*. An estimated 15 German agents for U.S. foods and agricultural products, as well as representatives for California raisins, Michigan navy beans, and the Institute of American Poultry Industries, will be on hand to show the

German trade what's happening in the world of U.S. foods.

Birmingham, England will be the site of the Ideal Home and Food Exhibition scheduled to run from September 30 through October 24. A wide range of U.S. foods and agricultural products will be displayed, demonstrated, and sold to both the trade and public. A broad point-of-purchase promotion of U.S. products in

local supermarkets will be run concurrently with the fair.

Moving back across the channel, U.S. foods will finish up the season at SIAL, International Food Products Exhibition to be held in *Paris* November 9-15. SIAL, a biennial event, will be a trade-only show for the first time this year. Over 49 countries competed for the attention of visitors in 1968, and, with this in mind, FAS and U.S. food firms are gearing up a high-powered approach for the Paris show. The theme of the U.S. exhibit will be "Foods of the Future" and there will be a unique display of the newest in U.S. food products. The new products as well as traditional favorites will be prepared in a special demonstration kitchen and offered for the approval of the trade.

The United States will also participate in two livestock shows this fall in Greece and Italy. During Greece's *Thessaloniki* livestock show August 31-September 20, the emphasis will be on promotion of modern methods and techniques.

In *Cremona*, Italy, a group of U.S. purebred Holstein-Friesian cattle will be on display at the 25th International Fair of Dairy Cattle from September 11 to 20. Cremona is located in the Po Valley, the industrial and agricultural heartland of Italy and an area where dairy producers have evidenced recent interest in upgrading their herds by purchasing quality cattle. The American Soybean Institute, the National Renderers Association, and the U.S. Feed Grain Council will also participate in the show.

For more information about these events, U.S. firms should write to the International Trade Fairs Division, USDA, Washington, D.C. 20250.

Brussels '69—talking business in the U.S. trade lounge.



CROPS AND MARKETS SHORTS

U.S. Cotton Exports High

Exports of U.S. cotton in the first 10 months (Aug.-May) of the 1969-70 season—at 2,313,000 running bales—continue to be ahead of the same period of the previous season—at 2,260,000 bales. Total 1969-70 cotton exports are now expected to approximate the 2.7 million bales shipped in 1968-69.

U.S. COTTON EXPORTS BY DESTINATION
[Running bales]

| Destination | Year beginning August 1 | | | | |
|---------------------------|-------------------------|------------------|------------------|------------------|------------------|
| | Average | | Aug.-May | | |
| | 1960-64 | 1967 | 1968 | 1968 | 1969 |
| | 1,000 bales | 1,000 bales | 1,000 bales | 1,000 bales | 1,000 bales |
| Austria | 23 | 1 | 0 | 0 | 0 |
| Belgium-Luxembourg | 121 | 45 | 30 | 24 | 17 |
| Denmark | 14 | 10 | 1 | 1 | (¹) |
| Finland | 17 | 11 | 3 | 3 | 6 |
| France | 319 | 148 | 88 | 80 | 28 |
| Germany, West | 269 | 100 | 31 | 25 | 23 |
| Italy | 345 | 253 | 62 | 53 | 43 |
| Netherlands | 110 | 36 | 19 | 16 | 16 |
| Norway | 13 | 7 | 5 | 5 | 1 |
| Poland | 125 | 77 | 106 | 106 | 51 |
| Portugal | 21 | 9 | 8 | 7 | 2 |
| Romania | 2 | 0 | 0 | 0 | 46 |
| Spain | 74 | 7 | 5 | 5 | 4 |
| Sweden | 81 | 75 | 51 | 46 | 36 |
| Switzerland | 74 | 60 | 32 | 28 | 13 |
| United Kingdom | 244 | 125 | 48 | 42 | 33 |
| Yugoslavia | 112 | 67 | 54 | 53 | 0 |
| Other Europe | 15 | 24 | 7 | 5 | 3 |
| Total Europe | 1,979 | 1,055 | 550 | 499 | 322 |
| Algeria | 9 | 13 | 27 | 23 | 10 |
| Australia | 61 | 17 | 0 | 0 | (¹) |
| Bolivia | 7 | 0 | 0 | 0 | 0 |
| Canada | 353 | 142 | 108 | 92 | 153 |
| Chile | 18 | 1 | (¹) | (¹) | 1 |
| Colombia | 3 | 0 | (¹) | 0 | 0 |
| Congo (Kinshasa) | 6 | 13 | 0 | 0 | 0 |
| Ethiopia | 9 | 22 | 9 | 9 | 1 |
| Ghana | 1 | 12 | 17 | 16 | 27 |
| Hong Kong | 148 | 299 | 194 | 175 | 51 |
| India | 314 | 342 | 174 | 8 | 167 |
| Indonesia | 40 | 70 | 105 | 97 | 190 |
| Israel | 15 | 4 | 1 | 1 | (¹) |
| Jamaica | 4 | 1 | 2 | 1 | 2 |
| Japan | 1,192 | 1,103 | 536 | 459 | 560 |
| Korea, Republic of | 261 | 351 | 447 | 426 | 380 |
| Morocco | 12 | 35 | 19 | 11 | 16 |
| Pakistan | 14 | 18 | 1 | 0 | 9 |
| Philippines | 123 | 154 | 119 | 93 | 98 |
| South Africa | 41 | 23 | 9 | 8 | 3 |
| Taiwan | 209 | 378 | 259 | 220 | 163 |
| Thailand | 34 | 90 | 66 | 57 | 42 |
| Tunisia | 2 | 14 | 0 | 0 | 5 |
| Uruguay | 6 | 0 | 0 | 0 | 0 |
| Venezuela | 8 | (¹) | (¹) | (¹) | (¹) |
| Vietnam, South | 46 | 24 | 62 | 48 | 99 |
| Other countries | 9 | 25 | 26 | 17 | 14 |
| Total | 4,924 | 4,206 | 2,731 | 2,260 | 2,313 |

¹ Less than 500 bales.

Exports in May 1970 totaled 299,000 bales, compared with 308,000 bales in April. May 1969 exports were 363,000 bales.

Weekly Rotterdam Grain Price Report

Current prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago, are as follows:

| Item | July 1 <i>Dol.</i> <i>per bu.</i> | Change from previous week | | A year ago <i>Dol.</i> <i>per bu.</i> |
|-------------------------------------|---|--------------------------------|--|--|
| | | <i>Cents</i> <i>per bu.</i> | | |
| Wheat: | | | | |
| Canadian No. 2 Manitoba | 1.96 | 0 | | 1.93 |
| USSR SKS-14 | (¹) | (¹) | | 1.84 |
| Australian Prime Hard | (¹) | (¹) | | 1.87 |
| U.S. No. 2 Dark Northern Spring: | | | | |
| 14 percent | 1.85 | -1 | | 1.91 |
| 15 percent | 1.93 | 0 | | 1.93 |
| U.S. No. 2 Hard Winter: | | | | |
| 13.5 percent | 1.78 | -2 | | 1.91 |
| Argentine | (¹) | (¹) | | (¹) |
| U.S. No. 2 Soft Red Winter | 1.69 | 0 | | 1.68 |
| Feedgrains: | | | | |
| U.S. No. 3 Yellow corn ... | 1.71 | +3 | | 1.44 |
| Argentine Plate corn | 1.78 | +5 | | 1.58 |
| U.S. No. 2 sorghum | 1.46 | +3 | | 1.27 |
| Argentine-Granifero | 1.49 | +7 | | 1.23 |
| Soybeans: | | | | |
| U.S. No. 2 Yellow | 3.29 | +4 | | 2.84 |

¹ Not quoted.

Note: All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

World Rice Production Up in 1969

World rice production in 1969 (excluding Communist Asia) is estimated at 194 million metric tons. This is a 5-percent gain over the 1968 crop; world yield increased 3 percent and area 2 percent.

The 1969 Asian rice harvest—at 169 million tons—was also 5 percent higher. India, the largest producer, had a 61.6-million-ton crop, up 3 percent. Production was 4 percent higher in Indonesia and Burma, 6 per cent higher in Pakistan, and 20 percent higher in Thailand. The Japanese outturn was 3 percent lower as per acre yield declined.

The South American crop—at 10 million tons—is estimated to be 13 percent higher. The United States produced 4.1 million tons, down 12 percent. This decline was principally a result of reduced area.

A detailed table and analysis appears in the June *World Agricultural Production and Trade—Statistical Report*.

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Foreign Agriculture

Venezuela's Feed Imports Shift From Wheat to Sorghum

A recent change in Venezuelan Government policy has brought a shift from wheat to imported grain sorghum and surplus domestic rice in the country's mixed feed industry. This means the loss of 200,000 tons of U.S. wheat exports used for feed purposes in Venezuela but should mean added export business for U.S. feedgrains.

The action that triggered the change was an appropriation of funds by the Venezuelan Congress to subsidize use of surplus domestic rice for livestock feeding rather than imports of feed wheat and at a lower total cost. (An earlier method of subsidizing all wheat imports through a differential currency exchange rate had been abolished under pressure from the International Monetary Fund. In place of the favorable exchange rate on milling wheat the Venezuelan Government now pays a comparable import subsidy.)

Subsequently, the government made an agreement with the Venezuelan Feed Manufacturers Association to sell 700,000 tons of second- and third-grade rice at a reduced price for feed use from May through September and to continue the same price level when the new crop reaches the market in October.

To enable feed mixers to maintain their supply of raw materials, the government also permitted them to import 140,000 tons of grain sorghum at the world market price. The price of the feed rice delivered to plant will be \$63 per ton, about the same as for imported sorghum (compared with the \$54 per ton they were paying for feed wheat). At the same time the manufacturers have agreed not to raise the mixed feed prices until at least September 30, 1970.

Imports of sorghum were begun promptly with the conclusion of the agreement. The first week in May, 15,000 tons of sorghum from the United States were unloaded in Puerto Cabello. And at the end of May, a second shipment of 17,000 tons was unloaded. Because of a freight advantage the bulk of

the sorghum imports will probably continue to be of U.S. origin. The three largest feed companies in Venezuela have contracted for shipping on a self-unloading bulk carrier for delivery of U.S. sorghum from Gulf ports on a back-haul basis at about \$2 per ton below usual rates. A typical schedule of one of these ships would be to load bauxite in eastern Venezuela for delivery to a port on the Mississippi River, then sail to Houston to load sorghum for Venezuela.

In order to reduce the cost of domestic and export subsidies on rice, Venezuela is making plans to reduce rice outturn and accelerate production of corn. The government plans to increase corn production by 220,000 tons next year—through technical assistance, wider use of credit, and thorough supervision—hoping to make the country self-sufficient in this commodity. Corn prices as well as rice prices are supported to encourage production. Corn is available from the government at \$89 per metric ton and rice normally at \$133 per ton.

Venezuela now produces about 250,000 tons of rice annually, exporting some 40,000 tons. Approximately 700,000 tons of corn are grown annually; imports, which have run as high as 200,000 tons, could this year reach 250,000 tons. All corn is imported by the government at the world price and is then sold to manufacturers at the higher internal support price.

Corn is mainly a staple human food, but it is also being used increasingly in mixed feeds. Venezuela's output of processed animal feeds in 1969 is reported to have been more than 500,000 tons. The long upward trend in animal feeding in Venezuela would suggest that the country will continue to be a substantial feedgrain market in the future.

Venezuela produces practically no wheat. Its annual imports have included about a half million tons of bread wheat—mainly high-protein U.S. spring wheat.

—By ANSEL S. WOOD
Grain and Feed Division, FAS